

STANDARD FORM NO. 64

SECURITY INFORMATION

*Office Memorandum* • UNITED STATES GOVERNMENT

TO : Chief, Engineering Division  
 THRU : Chief, C. & ERB  
 FROM : Chief, Test & Evaluation Section

DATE: 21 October 1953

SUBJECT: Inspection &amp; Installation of Recording Equipment from

25X1

1. The purpose of this report is to outline the difficulties encountered in the inspection and installation of this equipment by members of the Test & Evaluation Section. The installation took place on September 10, 11 and 14 [ ] of one complete set.

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2. The difficulties encountered are divided into several categories. These categories will be covered in the following paragraphs.

3. The mechanical difficulties are listed below:

a. Reproducer

1. This unit does not fit the mounting holes in the rack supplied. In the unit installed, the rack had to be drilled to insure proper mounting.
2. Improper adjustment of the braking system in "Fastforward" operation causes tape breakage and jamming in some units.
3. There is no provision for power entrance to the rack.
4. Some tape reel locking knobs are damaged internally.

b. Recorder

1. Recorder chassis improperly drilled to receive amplifier mounting nuts.
2. Amplifier mounting nuts poorly secured to chassis. Some units inspected had mounting nuts loose and missing.
3. Solenoid maladjustment caused improper operation in most units tested. Rust on solenoid plunger also contributed to improper operation. Extreme difficulty is encountered in the adjustment of this solenoid.
4. Rubber drive rims which operate the take-up reel appear to be dry rotted and many have flat spots which is a possible cause for "wow" noted in some units tested.

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5. Rack on unit installed had to be notched for proper clearance of recorder mounting slides.
  6. Rack doors will not close due to protrusion of coaxial cable and fittings beyond the rear of the rack.
  7. Snap catches on recorder panels improperly positioned.
  8. No power entrance to recorder rack.
  9. One amplifier unit contained defective tube socket, prohibiting installation of shield.
  10. Take up reel shaft bent on one unit tested.
  11. Audio input leads made of very brittle wire, which breaks when placed into position.
  12. The recording head pressure plate binds on some units tested causing improper tape pressure.
  13. Inductors L-301, L-302, L-303 and L-304 were loosely mounted in some of the amplifiers.
4. The following are electrical troubles encountered:
- a. Reproducer
    1. P-301 and P-302 are marked in reverse on all of the units checked thus far.
  - b. Recorder
    1. All recording amplifiers tested (10) were found to be out of alignment.
5. The initial tests of this equipment were made without any adjustment by this Section, since the instruction manuals stated that the equipment was factory adjusted. These tests revealed that much of the equipment tested was not acceptable for reasons previously mentioned.
6. Further tests revealed that misalignment of recording amplifiers was the cause of very poor frequency response, obtained from these units.
7. Two recording amplifiers were realigned by this Section. It was found that acceptable recordings were obtained after adjustments were made.
8. All Select-O-Jects and Sound effects filters tested were acceptable.
9. General Comments: Cables to Sound Effects Filter are not marked nor adequately discussed in the instruction book. This results

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in a loss of time in installation and should be discussed in detail indicating markings of cable, terminal block and lead dress.

It is possible to encounter a difference of potential between racks and units. This is not mentioned in instruction book. It should be stated that to insure against shock hazard, all units should be bonded together.

In the alignment of the amplifier, it was found that the polarity of VTVM probes at J-303 accounted for difficulty in duplicating instruction book's indicated measurements.

The photographs in the instruction manuals were extremely helpful in installing this equipment. It is therefore suggested that these pictures be enlarged to page size in future manuals.

It has been noted that if line voltage to the equipment is varied over the specified range, there is a corresponding change in the recording head bias voltage of .3 volt to .34 volt. The instruction manual does not mention whether or not the bias should be corrected for changes in the line voltage.

FOR THE CHIEF, TEST & EVALUATION SECTION:



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